

**Bioassay-guided isolation of antifungal plumericin from *Allamanda* species
(Apocynaceae).**

ABSTRACT

Anthracnose is an economically important disease that can cause 10 to 80% yield reduction in the market with its typical symptoms of dark spots, sunken necrotic tissues and concentric rings of acervuli on fruits. One of the important methods to control the disease is by using antifungal agents derived from plant. Preliminary study indicated that the extracts of *Allamanda* species have the potential to be developed as the target agent. Five *Allamanda* species were extracted and screened for antifungal activity against plant pathogenic fungus *Colletotrichum gloeosporioides* by using poison agar technique. The three chloroform extracts of *A. blanchetti*, *A. cathartica* 'Alba' and *A. cathartica* 'Jamaican Sunset' exhibited potent inhibitory effects and suppressed the mycelial growth of *C. gloeosporioides* by up to about 70%. Further study by bioautography-guided fractionation of the extracts led to the isolation and identification of tetracyclic sesquiterpene plumericin as the antifungal agent. The structural determination of the compound was carried out by interpreting the IR, MS, 1D-NMR and 2D-NMR spectral data.

Keyword: *Allamanda* species; Antifungal; *Colletotrichum gloeosporioides*; Bioautography; Plumericin.